

REMARKS

The Applicants would like to thank the Examiner for reminding them of their obligation under 37 CFR 1.56 of notifying the Office of subject matter of the various claims that was not commonly owned at the time any inventions covered therein were made.

Claim Rejections under 35 USC § 102

Claims 1-2, 4-11 and 13-15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Bochner et al (2003/0162164).

Bochner et al. teach in paragraphs [074] and [083] use of carrageenan or gelatin supports for indicators such as thionin. Paragraph [0218] teaches these indicator are “oxidation-reduction indicators”. Paragraph [0307] teaches spectrometry to measure the changes in absorbance. Paragraph [0427] teaches first coating the indicator and then adding the carrageenan or gelatin. Alternative, both the indicator and carrageenan or gelatin can be mixed together and then coated.

Claim 1-2, 4-11 and 13-15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bochner et al. (USP 5,627,045).

Bochner et al. teach a method and apparatus for testing microorganisms based upon their oxidation-reduction characteristics by colorimetric indicators. Column 7 mixing a carrageenan and an “oxidation-reduction indicators” such as neutral red. Column 27 lines 7-27 teach the reactions are observed visually or with optical instruments.

Bochner et al in ‘045 teach only a method for detecting/identifying microorganisms which is based on their oxidation reduction characteristics. In column 6 lines 13-28 Bochner states “The present invention describes test media and methods for the growth, isolation, and **presumptive** identification of microbial organisms. The present invention contemplates compounds and formulations, as well as methods particularly suited for the **detection** and **presumptive identification** of various diverse organisms.” [Emphasis added]. Bochner does not use oxidation-reduction potential (ORP) to determine the amount of material present but only as

a detection method and as a presumptive identification. There is no suggestion or teaching that would indicate to one of ordinary skill in the art that one could measure the concentration of either a microorganism or a chemical species related to the oxidation-reduction potential of a solution. The Applicants clearly teach the novel aspect of using ORP to determine the ratio between the oxidized and reduced species. See [0009], [0010] and [0011] in the pending application (U.S. 2005/0112772 A1).

Bochner et al in U.S. 2003/0162164 A1 were only concerned with testing microorganism to determine the presence or absences of selected microorganisms and not the concentration of a chemical species. Again Bochner in [0121] states: “The present invention is predicated in part on the discovery that various cells or cell types may be **identified, differentiated, and characterized** based on differential biochemical reactions. The multiple test medium of the present invention permits presumptive and rapid testing of various specimens and cells.” [Emphasis added] There is no motivation for one of ordinary skill in the art to use an identification testing method to determine concentration for either a microorganisms (the subject of Bochner’s work) or a chemical species.

Claims 1 and 10 have been amended to clearly and distinctly point out that the ORP in in this instant invention is used to quantitatively measured the oxidized and reduced chemical species in either a chemical or biochemical system These amendments are supported by paragraphs 0009, 0010, and 0011 in the specification.

Claim Rejections under 35 USC § 103

Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bochner et al. (USP 5,627,045) or Bochner et al. (2003/0162164) either in view of Thompson et al. (USP 5,627,045).

See Bochner et al. (USP 5,627,045) and Bochner et al. (2003/0162164) supra.

The two Bochner et al references are silent to the claimed indicator indigo carmine.

Thompson et al. teach a kit for determining microorganism metabolism by determining changes in the oxidation-reduction potential using indicators. Column 7 lines 30-38 teach equivalent indicators for this purpose are thionine (taught by Bochner et al. (2003/0162164)), neutral red (taught by Bochner et al. (USP 5,627,045)) and indigo carmine (presently claimed here).

“It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose....[T]he idea of combining them flows logically from their having been individually taught in the prior art.” In re Kerkhoven, 626 F.2d846, 820,205 USPQ 1069, 1072 (CCPA 1980). The Office equates the “compositions each of which is taught by the prior art to be useful for the same purpose” to the different indicator taught by the Bochner et al. references and Thompson et al. The Office maintains it would have been within the skill of the art to modify either of the Bochner et al. references and use indigo carmine indicator taught by Thompson et al. to form a new composition (e.g. the third composition referenced above) that is used for the very same purpose in light of Kerkhoven.

The Applicants respectfully disagreed with The Examiner that it would have been within the skill of the art to modify either of the Bochner et al references with the indigo carmine indicator taught by Thompson to form a new composition. These references taught away from this instant invention as they were solely concerned with the identification of microorganisms and not with determining the concentrations. Again as Thompson claims in claim 3 in U.S. Patent 5,164,301: “ Claim 3. A process as set forth in claim 2 wherein the growth medium contains specific nutrients which change the physical-chemical properties of the medium when metabolized by specific microorganisms, said changing step being further defined as changing the physical-chemical environment of the first dye as only a specific type of microorganism metabolizes the specific nutrient in the medium and observing the change in emission of the second dye as **an identification of the presence of the specific type of microorganism.**” Further Thompson required the presence of two dyes to determine the specific type of microorganisms.

There is no motivation for one of ordinary skill in the art to use an identification testing method to determine concentration for either a microorganisms (the subject of Bochner’s work and further in Thompson’s patent) or a chemical species.

Claims 1 and 10 have been amended to clearly and distinctly point out that the ORP in in this instant invention is used to **quantitatively** measured the oxidized and reduced chemical species in either a chemical or biochemical system. [Emphasis added] These amendments are supported by paragraphs 0009, 0010, and 0011 in the specification.

Claims 4, 6, and 14 were amended to correct typographical errors.

In view of the above, the Applicants respectfully request withdrawal of the 35 USC § 102 (b), 35 USC § 102(e), and the 35 U.S.C. 103(a) rejections of claims 1 - 15.